

Simulation scenario development



About the simulation

Title:	Radiation safety and communication	
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Identified need

What is the issue and the need for training?

The radiation environment is a highly specialised area, where various health professionals, including radiation therapists deliver doses of radiation for therapeutic purposes. There are many health professionals and students, other than radiation therapists, who at times are required to enter into this environment. Given the risk of radiation exposure, and the meticulous nature in the way radiation therapists need to operate equipment, there is a need for all people who access this environment to be aware of safety procedures and communication protocol.

Target audience

Who is this simulation activity designed for?

This simulation is designed for all health professionals and some student groups, who interact with staff and patients in a radiation environment.

Some examples of allied health professionals who enter this environment are:

- Dietitians and/or speech pathologists who need to communicate with radiation therapists or patients about PEG feeds or conditions of the head/neck.
- Social workers who need to communicate with patients regarding referral to services.
- Physiotherapists or occupational therapists who need to communicate with radiation therapists or patients about lymphoedema treatment.

Other professionals who may enter the radiation environment include nurses, medical staff, cardiac technicians, and medical students.

There also an additional component which can be run for radiation therapy students. This component focuses on the management of a distressed patient in the treatment bunker.

Learning objectives

What do you intend for participants to learn?

At the conclusion of this simulation, participants will be able to:

1. Identify the key safety aspects involved with working in a radiation area.
2. Demonstrate the appropriate communication required when interacting with radiation therapists delivering patient treatment.
3. Demonstrate safe conduct in a radiation area.
4. Manage a highly distressed patient in a radiation area (Radiation therapy students only).

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Background

List the background knowledge which needs to be reviewed or taught as well as any reference materials

Pre-reading (for facilitators):

- Differences between modalities (eg. nuclear medicine, diagnostic, radiation therapy)
- Relevant policies: (Australian Radiation Protection and Nuclear Safety Agency guidelines / local radiation safety procedures & policies)
- Radioactivity of patients following treatment,
- Behaviours/actions which are and are not of risk to others.
- Key safety messages
- Key signs and symbols

Workshop material:

- Orientation to the radiation environment
- Review of key signs and symbols
- Review of key safety messages and limiting staff exposure
- Communication etiquette/protocol (who to communicate with and when to communicate)

Simulation activity

Modality (select more than one if applicable):

Simulated patient (or standardised patient) Task trainer Manikin/human patient simulator
 Computer based Role play Animal or cadaveric Hybrid Virtual reality Objective Structured Clinical Examinations (OSCEs)

Participants take turns to enter into the simulated radiation environment. The participants who are not actively involved in the simulation will act as observers who will look out for safety procedures which were either observed or not observed. Each participant will have a scenario relevant to their respective discipline. Each scenario will involve the participant, the radiation therapist who will be actively treating a patient, and a confederate who may be another staff member in the radiation environment.

Scenarios will require participants to observe the signs in the radiation environment, conduct themselves in a safe manner, make determinations as to when it is safe and not safe to enter the environment, and make determinations as to when and how to communicate with the staff in the radiation environment.

Each simulation will last for approximately two minutes. Following each simulation the facilitator may run a short discussion around safety procedures observed and not observed before the next simulation commences.

Setting/environment

In what context is the simulation occurring in? e.g. ward/home visit/acute/rehab/metro/rural/regional.

The context of this simulation is in a radiation therapy treatment bunker. The simulation does not need to necessarily run in this environment as the environment can be simulated in a multi-purpose room, a simulation centre, or even on a ward using desks and relevant signage.

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Staff/faculty/confederates

List the staff/faculty/confederates required including tasks.

This simulation requires for a group of up to 6 participants:

- 1 x facilitator
- 2 x confederates (radiation therapist/s and/or simulated patient in radiation environment)

Equipment, tools and resources

List the equipment and resources required for the activity including details of what needs to be prepared prior to the simulation?

Tools: Audio/video capture (ensure consent forms are signed) Moulage Props Other - Details:

- Desk/table to mock up machine console area
- Medical record
- Signs in the radiation environment

Costs

List the cost required for the activity including details of individual charges, *in kind* support or not applicable.

Note: check with LHDs and Specialty Health Networks regarding appropriate approval process

Venue

Faculty/staff

Actor hire

Equipment hire

Consumables

Catering

Other – Details

Total

Subject details (profile of simulated patient, details of task trainer, details of confederate, etc.)

e.g. Condition, presentation, history, age, demographic.

Given that the simulation will focus on the interaction the participant has with the environment, and also their interaction with radiation therapy staff, the condition and treatment of the patient is inconsequential.

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Timing

Welcome, housekeeping, introductions and learning objectives	5 mins
Background	20 mins
Briefing	5 mins
Simulation	15 mins
Debriefing	10 mins
Evaluation	5 mins
TOTAL	60 mins

Briefing of participants

What needs to be discussed before the activity?

- Each participant will assume their professional role for the simulation
- Radiation therapy students will assume the role of a radiation therapist.
- Each person will have an opportunity to enter in the simulation and this will be rotated.
- While the active participant is in the simulation, the other participants are observers looking at the safety procedures observed and not observed.
- There will be a short discussion after each participant to discuss safety procedures observed and not observed.
- Each person will be given briefing notes so they know the context in which they are entering the radiation environment.

Debriefing and reflection

What needs to be discussed after the activity? Think about specific questions.

- How did you feel entering in to a radiation environment?
- Were there radiation safety procedures which were missed or not observed?
- What were the cues you used to decide whether to enter the radiation environment, and how you might communicate?
- Where there times were it was ambiguous whether you could enter the radiation environment or when you might communicate?
- As an observer was there anything you could see more clearly than when you were the participant?
- Discussions around impact of unnecessary exposure

Evaluation

How might you evaluate the simulation?

- Participant post-evaluation form

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